

HAWAIIAN ISLANDS HUMPBACK WHALE NATIONAL MARINE SANCTUARY

Accomplishments Report
2002 -2007



NATIONAL MARINE
SANCTUARIES TM



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The National Marine Sanctuary Program

The National Marine Sanctuary Program serves as the trustee for a system of 14 marine protected areas, encompassing more than 150,000 square miles of marine and Great Lake waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the recently designated Papahānaumokuākea Marine National Monument that protects the waters and lands of the Northwestern Hawaiian Islands. The sanctuary program is part of the National Oceanic and Atmospheric Administration (NOAA), which manages sanctuaries by working cooperatively with the public to protect the sanctuaries while allowing compatible recreational and commercial activities. The program works to enhance public awareness of our marine resources and marine heritage through scientific research, monitoring, exploration, educational programs and outreach.

Our national marine sanctuaries embrace part of our collective riches as a nation. Within their protected waters, giant humpback whales breed and calve their young, coral colonies flourish, and shipwrecks tell stories of our maritime history. Sanctuary habitats include beautiful rock reefs, lush kelp forests, whale migration corridors, spectacular deep-sea canyons, and underwater archeological sites. Our nation's sanctuaries can provide a safe habitat for species close to extinction or protect historically significant shipwrecks. Ranging in size from less than one square mile to over 5,300 square miles, each sanctuary is a unique place needing special protections. Natural classrooms, cherished recreational spots, and valuable commercial industries—marine sanctuaries represent many things to many people.

Cover photo: Breaching humpback whale
Photo by Doug Perrine/
HWRF/Seapics.com/NOAA
Fisheries Permit #882



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Hawaiian Islands Humpback Whale National Marine Sanctuary

The warm and shallow waters surrounding the main Hawaiian Islands constitute one of the world's most important humpback whale habitats. Scientists estimate that two-thirds of the entire North Pacific humpback whale population migrate to Hawaiian waters each winter to breed, calve, and nurse their young. The continued protection of humpback whales and their habitat is crucial to the long-term recovery of the endangered species. The primary goal of the Hawaiian Islands Humpback Whale National Marine Sanctuary is to protect humpback whales and their habitat in Hawai'i. The sanctuary is managed through a partnership between the State of Hawai'i Department of Land and Natural Resources (DLNR) and the National Oceanic and Atmospheric Administration (NOAA) that strives to cultivate stewardship and heighten awareness through programs in research, education, and resource protection.



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Sanctuary Vision

The sanctuary works collaboratively to sustain a safe and healthy habitat for the North Pacific stock of humpback whales (kohōla).

As a community of ocean stewards, the sanctuary strives to achieve a balance of appropriate uses, inspired care taking, enlightened understanding, and effective education to ensure the continued presence of the kohōla for future generations.

The sanctuary endeavors to do this with harmony, hope, respect, and aloha o ke kai (love of the sea).

Sanctuary Goals

Conserve, enhance, and protect humpback whales and their habitat;
Foster all uses of the sanctuary compatible with protection of the humpback whales and their habitat including Native Hawaiian customary and traditional practices for subsistence, cultural and religious purposes;
Establish means of coordination and collaboration among federal and state resource management agencies, Native Hawaiians, the general public, and other organizations to benefit humpback whales in Hawaiian waters;
Promote and coordinate research to increase understanding of humpback whales and their habitat; and
Enhance public awareness and appreciation of humpback whales, their habitat and the sanctuary.

Naomi McIntosh
Sanctuary Superintendent
National Oceanic and
Atmospheric Administration

Jeffrey S. Walters, Ph.D.
Sanctuary Co-manager
State of Hawai'i
Department of Land and Natural Resources

Email: hihumpbackwhale@noaa.gov
Web: <http://hawaiiumpbackwhale.noaa.gov>

Hawaiian Islands Humpback Whale National Marine Sanctuary

O'ahu Office
6600 Kalaniana'ole Hwy.
Suite 301
Honolulu, Hawai'i 96825
(808) 387-2651

Maui Office
726 South Kihei Road
Kihei, Hawai'i 96753
(800) 831-4888
(808) 879-2818

Kauai Office
4370 Kukui Grove St.
Suite 206
Lihu'e, Hawai'i 96766
(808) 246-2860

Kona Office
73-4460 Queen Kaahu-
manu Hwy. #112
Kailua-Kona, HI 96740
(808) 327-3797

State of Hawai'i Office
1151 Punchbowl St.
Room 330
Honolulu, Hawai'i 96813
(808) 587-0106

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Executive Summary

The Hawaiian Islands Humpback Whale National Marine Sanctuary (sanctuary) is designated to protect the humpback whale and its habitat in Hawai'i. The sanctuary enables citizens and government to work collectively on safeguarding the Hawai'i humpback whale breeding and calving range, an area which supports over two thirds of the North Pacific humpback whale population. Encompassing 1,370 square miles of federal and state waters within the main Hawaiian Islands (MHI), the sanctuary extends out from the shoreline to the 100-fathom isobath (600-foot depth) and is composed of five separate marine protected areas (MPAs) accessible from six of the MHI. The sanctuary's configuration presents unique challenges and opportunities for protecting sanctuary resources, developing programs, and increasing public awareness of humpback whales throughout the state.

This report presents information on the sanctuary's programs for the five years from 2002-2007, highlights the sanctuary's major accomplishments for the period, and presents and examines issues relevant to future sanctuary management and programs. The National Marine Sanctuary Program (NMSP) is required by law to periodically review sanctuary management plans to ensure that sanctuary sites continue to best conserve, protect, and enhance their nationally significant living and cultural resources. The management plan for the sanctuary was last reviewed and revised in 2002. In preparation for the sanctuary's next management plan review, the program is beginning the process with an internal review of the effectiveness of site programs and policies relative to the sanctuary's mandated goals.

The sanctuary program is supported by the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) and administered jointly through a compact agreement and memorandum of understanding with the State of Hawai'i. The sanctuary was Congressionally designated in 1992 by the Hawaiian Islands National Marine Sanctuary Act (HINMSA), and was fully established in 1997 with the State of Hawai'i's acceptance and approval of the sanctuary's first management plan and final Environmental Impact Statement.

This report was prepared by NOAA in consultation with the State of Hawai'i Department of Land and Natural Resources (DLNR).

The sanctuary is managed through a partnership between the State of Hawai'i Department of Land and Natural Resources and the National Oceanic and Atmospheric Administration.

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HIGHLIGHTS

The sanctuary's objectives outlined in its 2002 management plan focused on improving scientific and educational programs, establishing a presence on the island of Hawai'i, and responding to interests of community volunteers with increased staffing and volunteer participation. Consequently, sanctuary programs have been effective in reaching a larger audience of people. Building stronger stewardship for Hawai'i's marine resources can generate increased opportunities for protection and enhancement of the sanctuary through conservation-based efforts and activities.

The sanctuary achieved significant accomplishments in the following areas:

Humpback Whales Protected and Population Increases - The Hawaiian humpback whale population has grown from an estimate of 5,000 individuals in 1993 to as many as 10,000 whales in 2007. Safe boating through ocean etiquette campaigns and whale disentanglement response have contributed to humpback whale protection as well as ocean user safety as the population of whales have increased. Since 2002, through the Hawaiian Islands Disentanglement Network, the sanctuary has conducted over 26 responses and has successfully disentangled 8 humpback whales assessed with life threatening entanglements.

Applied Conservation Science and Research - SPLASH (Structure of Populations, Levels of Abundance, and Status of Humpbacks) is the most comprehensive study of any whale species ever conducted. Sanctuary staff have been active in coordinating this international effort since it began in 2004.

Science in Schools - Curriculum Development and Education Cruise - The sanctuary played an important leadership role in a large initiative to develop marine science curricula for the State of Hawai'i Department of Education (DOE) covering grades K through 12. As a field component for the curriculum, the sanctuary has used the NOAA ship Hi'ialakai to pilot an at sea classroom to engage students and to show them actual research that is being done.

Public Outreach and Education - The sanctuary is increasing ocean awareness and stewardship by the people of Hawai'i through community and regional partnerships in education. From extensive coverage of humpback whales and sanctuary programs in both print and broadcast media to producing several outreach products that reached thousands of residents and tourists, the sanctuary is a leader in working with the community to protect our unique marine environment. Volunteers programs include whale counts in the Sanctuary Ocean Count, naturalist training in the Ocean Awareness Training classes, marine debris clean-up, elder hostel programs, monthly lecture series, reef surveys, and educational workshops.

From 2002-2007, the sanctuary has made significant achievements in resource protection, research, operations, education, and community outreach in its efforts to protect the humpback whale and its habitat in Hawai'i.

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Tourism Revenue - Humpback whales make a major contribution to Hawai'i's economy; it has been estimated that whale watching annually provides as much as \$27 million in revenue (Utech, 2000) and as many as 300,000 people participate in whale watching trips annually (Markrich 2004). The sanctuary has encouraged the business community to explore ways to appreciate the presence of humpback whales while also using this enterprise as a springboard for public education and information on humpback whales.

Partnerships and Sanctuary Advisory Council - Expanded partnerships with public, academic, and private organizations have generated wide community support. The sanctuary's citizens' and inter-agency advisory group represents diverse stakeholders that work cooperatively to advise sanctuary managers on protection for humpback whales in Hawai'i. This Sanctuary Advisory Council is a testament to how the sanctuary facilitates discussion and finds solutions on issues that affect humpback whales and their habitat in Hawai'i.

Statewide Program - Since 2002, the sanctuary has extended facilities to islands adjacent to sanctuary waters. In June of 2004, the sanctuary opened its Hawai'i Island office in Kona at the Natural Energy Laboratory of Hawai'i. The sanctuary plans to open the Maui Sanctuary Learning Center in 2008, a multi-purpose building that can accommodate a variety of programming including lectures, workshops, classrooms, and public meetings.



Mother and calf humpback whale
Photo by Flip Nicklin/Minden Pictures

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RESOURCE PROTECTION AND MANAGEMENT

The sanctuary resource protection program works within a framework in accord with the memorandum of understanding with the state of Hawai'i to protect humpback whales and their habitat in sanctuary waters by implementing strategies designed to reduce harmful human effects on the whales. Approximately 52% of sanctuary waters fall under state jurisdiction. Sanctuary personnel work closely with state agencies to ensure the coordinated management of the sanctuary and humpback whales. This federal-state partnership led to expanded efforts to heighten public awareness and knowledge of the whales through research, conservation and education programs throughout Hawai'i. Over the last five years, sanctuary programs have developed effective resource protection strategies to improve management decision making, build capacity, promote public awareness of and voluntary compliance with federal and state regulations.

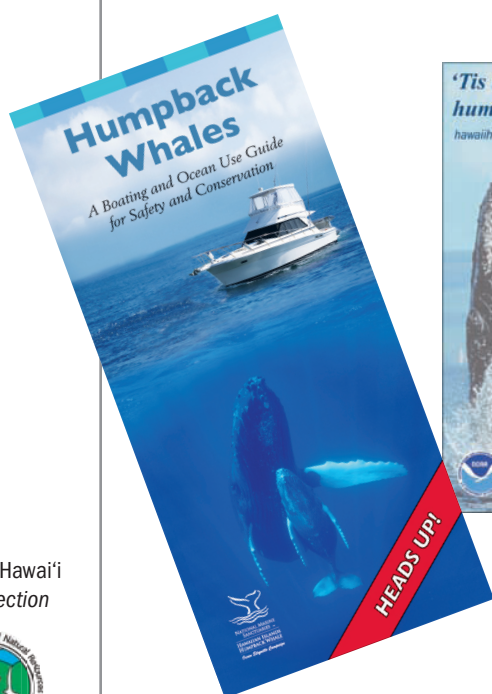
Vessel-Whale Collisions

The sanctuary has been a leader in addressing the issue of vessel-whale collisions in Hawai'i over the past five years. Its accomplishments in this area include the following:

Vessel-Whale Collision Avoidance Workshop, September 2003, Wailea, Maui

The sanctuary organized a workshop in close partnership with its Sanctuary Advisory Council to assess ship strike risks to whales in Hawaiian waters and to identify possible actions for reducing the occurrence of vessel-whale collisions throughout the National Marine Sanctuary System. Over 75 resource managers, scientists, industry leaders, and representatives of the marine community participated.

From 1975 to 2006, there have been 32 reported and confirmed whale strikes in Hawai'i. Seven of those 32 strikes occurred during the 2006 whale season.



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Brochures, advertisements, and signs are just some of the products created to increase boater safety and protect humpback whales.

Collision Avoidance Guidelines and Ocean Etiquette Campaign

In order to reduce the number of vessel strikes on whales, DLNR and NOAA started a comprehensive outreach campaign to better inform ocean users, specifically boat operators, of the need to be on the lookout for whales during November through May. With the increased number of whales and boaters alike, the chances of an incident are ever increasing. The focus is not only to reduce the number of whales injured, but also to prevent dangerous and costly boating accidents. Since 2004, the sanctuary



The obvious cuts from a boat's propeller were probably fatal for this young humpback whale observed in Hawaiian waters in 2005.

has disseminated collision avoidance guidelines that have been featured annually in newspaper articles, lectures, workshops, harbor signs and outreach events and products. In 2006, the sanctuary implemented an Ocean Etiquette Campaign with targeted outreach activities including a brochure and seven boater workshops held throughout the islands.

Collision Research, Monitoring, and Reporting

Since 2002, the sanctuary has contracted two research studies concerning the occurrence of vessel-whale collisions in sanctuary waters. Sanctuary personnel assist in keeping records of reported collisions and conduct outreach activities that encourage boaters to report strikes when they occur.

Collision Response

Sanctuary personnel respond to reported collisions to document whale injuries and collect information for follow-up investigations. In 2006, Sanctuary personnel on Maui responded immediately to two collisions involving humpback whale calves and documented their injuries.

International Efforts

Sanctuary personnel participate in international forums related to vessel-whale collisions through subcommittees and working groups of the International Whaling Commission.

Hawaii Superferry Whale Avoidance Policy

In response to Sanctuary Advisory Council requests, the Hawaii Superferry developed a whale-strike mitigation plan, that includes dedicated whale lookouts and appropriate technology, announced intent to avoid operations in sanctuary waters as much as possible during whale season, and to operate at 25 knots or less when in operation in sanctuary waters. At this time, NOAA is still reviewing the mitigation measures proposed by Hawaii Superferry to strengthen and further minimize potential interactions with whales.

The sanctuary is leading a massive outreach campaign on collision avoidance guidelines, which aims to increase boater awareness and reduce vessel-whale collisions. The sanctuary contributes to making ocean tourism safe for whales and safe for the industry.

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Disentanglement and Emergency Response Program

Globally, the leading known human cause of humpback whale mortality is entanglement by ropes and nets. The sanctuary leads efforts to mitigate effects of entanglement locally, nationally and internationally. Locally, sanctuary personnel train others and develop unique tools and techniques to free entangled whales and coordinate rescue responses concerning humpback whales in distress in Hawaiian waters. Nationally, sanctuary personnel advise NOAA Fisheries on entanglement issues as invited participants in workshops and through comparative research on entanglement scarring. Internationally, sanctuary personnel have conducted disentanglement workshops in Mexico and New Zealand, and participate on the Bycatch subcommittee of the International Whaling Commission's Scientific Committee.

Disentanglement Rescue

Working with other NOAA partners, the sanctuary spearheaded creation of the Hawaiian Islands Whale Disentanglement Network in 2002. This network had over 60 trained participants by the end of 2006. Since 2002, the network has conducted 26 disentanglement responses, and successfully disentangled eight humpback whales from life threatening entanglements.

Stranding Network

The sanctuary continues to work with NOAA Fisheries Service and the State of Hawai'i to build capacity for responding to marine mammals in distress.

National and International Programs

Outside of Hawai'i, Sanctuary personnel provided whale rescue training to approximately 85 trainees in Alaska, 25 in Mexico, and 50 in California.

The sanctuary has a world renowned disentanglement team whose ultimate goal is to prevent the leading human cause of humpback whale mortality: entanglement in man-made ropes and nets.



An underwater photo shows an entangled whale. Sanctuary staff work above to remove the line, while the NOAA support boat stands by.

NOAA Fisheries MMHSRP - Permit #932-1489

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Collaborations and Partnerships

The sanctuary works cooperatively with the State of Hawai'i to protect humpback whales and their habitat. Since the sanctuary's inception, sanctuary managers have formed strategic partnerships with a variety of federal and state agencies to facilitate marine resource management in Hawaiian waters. This cooperative management strategy has been particularly effective in instances where the sanctuary's strengths in education and outreach fill an important role in helping to conserve, protect, and enhance the biodiversity of our oceans.

In addition, the sanctuary continues to build partnerships with community organizations that promote responsible marine resource use and stewardship. By providing education material to the public in cooperation with its partners the sanctuary successfully informs residents and visitors about the importance of Hawai'i's marine environment.

Examples of sanctuary collaborations and partnerships:

NOAA Fisheries - Promoted cooperative and comprehensive management of humpback whales and their habitat in Hawaiian waters.

NOAA and the State of Hawai'i - Produced joint outreach products including safe boating and ocean etiquette guides, interpretive signs, posters, the sanctuary newsletter, *Ka Leo O Ke Koholā* (The Voice of the Humpback Whale), and the annual Ocean User's Handbook.

U.S. Coast Guard - Provided the sanctuary nearly 2,000 hours of surface patrols and 1200 hours of aerial patrols monitoring the sanctuary for potential violations of sanctuary regulations and educated mariners on ESA and MMPA compliance.

University of Hawai'i Sea Grant's Hanauma Bay Education Program - Co-sponsored lectures series and other special events for the Hanauma Bay Nature Preserve

University of Hawai'i Marine Option Program - Supported an internship program to assist in Ocean Count and public outreach.

U.S. Fish and Wildlife Service at Kilauea Point National Wildlife Refuge - Conducted public education including volunteer programs and the Kaua'i Family Ocean Fair.

National Park Service - Provided education about humpback whales and Hawaiian culture at Hawaiian culture festivals at Pu'uhonua o Hōnaunau and Kaloko-Honokōhau National Historical Parks.

Hawai'i Department of Education - K through 12 marine science curriculum and field study development.

Papahānaumokuākea Marine National Monument - Collaborated on operations and activities

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Council Seats

Non-government:

Native Hawaiian
Research
Education
Conservation
Whale Watching
Business/Commerce
Ocean Recreation
Fishing
Tourism

Citizen-at-Large

Hawai'i County
Honolulu County
Kaua'i County
Maui County

State of Hawai'i:

Office of Planning
Department of Health
Department of Land and Natural Resources
Department of Business, Economic Development and Tourism
Department of Transportation
Office of Hawaiian Affairs

Federal:

NOAA Fisheries
NOAA Office of Law Enforcement
U.S. Coast Guard
U.S. Navy
Western Pacific Regional Fishery Management Council
U.S. Army Corps of Engineers
Papahānaumokuākea Marine National Monument

Sanctuary Advisory Council

Since its establishment in 1996, the Sanctuary Advisory Council (council) has contributed significantly to sanctuary policies and programs that embody a collaborative management approach. The council was established by Federal law in order to assure public advisory participation in the management of the sanctuary. The council provides a unique opportunity for NOAA and DLNR to develop a community partnership in Hawai'i. Members representing a variety of local and federal agencies, user and industry groups, and each of the counties, provide input into the development and management of the sanctuary. The council discusses issues germane to humpback whales and their habitat in Hawai'i and advises the sanctuary co-managers on issues such as vessel-whale collisions, aquaculture development, and potential impacts to humpback whale habitat. The council also provides valuable input on sanctuary activities including the ocean etiquette campaign, ocean user guidelines, and regulations regarding humpback whales and their habitat.



The Sanctuary Advisory Council and staff at the annual council retreat.

Supporting Native Hawaiian Culture

Sanctuary programs support activities that nurture a cultural awareness based upon the Native Hawaiian tradition of respect for the ocean and its resources. The sanctuary program maintains relationships with native Hawaiian groups and cultural practitioners, sponsors cultural lectures, and educates the public about cultural values pertaining to the sanctuary. The sanctuary also works in partnership with 'Ao'ao O Na Loko I'a O Maui (Association of the Fishponds of Maui) to deliver Native Hawaiian education programs at its Maui facilities. A major reconstruction effort to restore an ancient Hawaiian fishpond is taking place at the Kīhei site. Stone by stone, the fishpond association workers and volunteers are rebuilding the wall by hand. Programs, cultural exhibits, and outreach materials have helped facilitate education of the marine environment and its importance to native Hawaiian culture.

A view of sanctuary waters and the fishpond being restored using traditional methods.



Kimokeo Kapahulehua, Sanctuary Advisory Council member and director of the fishpond association, educates visitors about Native Hawaiian culture. Kimokeo was also recognized as the National Marine Sanctuary Program Volunteer of the Year in 2005.

The sanctuary program maintains relationships with Native Hawaiian groups and cultural practitioners, sponsors cultural lectures, and educates the public about cultural values pertaining to the sanctuary.

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RESEARCH AND MONITORING

The sanctuary has taken a lead in conducting collaborative research projects that assess populations of humpbacks and the condition of their habitat, and differentiate between natural and anthropogenic impacts. Monitoring of humpback whales and their habitat includes documenting whale distribution and abundance, as well as monitoring potential human impacts. During the past five years, much of the sanctuary's research focus has been on SPLASH (Structure of Populations, Levels of Abundance, and Status of Humpbacks), an international cooperative research study of the population structure of humpback whales across the North Pacific and the world's largest and most comprehensive research project ever conducted on any whale species. The sanctuary research program also provides research training and internships and is involved in both local and international collaborative meetings, workshops, and marine mammal survey partnerships on the mainland U.S. and in American Samoa.

The primary strategies of the sanctuary's research program include the following:

- 1) improving understanding of the central North Pacific population of humpback whales and their wintering habitat;
- 2) addressing and resolving specific management concerns;
- 3) coordinating and facilitating information exchange among various researchers and institutions, agencies, and the public.

Habitat Mapping

Bathymetry mapping cruises were conducted over the past five years, and it is estimated that the majority of the sanctuary is now mapped. This advancement in documenting the sanctuary includes the complete mapping of Penguin Bank, an important habitat for humpback whales in Hawai'i. The characteristics of the area, bound by Maui, Moloka'i, Lana'i, and Kaho'olawe, along with the extension of the shallow Penguin Bank southwest of Moloka'i, represents a unique, semi-enclosed, shallow protected sea in the midst of an expansive ocean. In 1997, at the time of the initial sanctuary Environmental Impact Statement and Management Plan, very little information had been published about the specific characteristics of this inter-island area. The bathymetry collected during a research cruise in 2005 was added to the synthesis in order to make a preliminary assessment of seafloor characteristics across the state. The synthesis, begun by Hawai'i Underwater Research Lab (HURL), incorporates data from a wide variety of mapping groups and includes academic, state, and federal data.

The sanctuary is compiling an atlas of sanctuary maps, an important component in habitat characterization for the site.

SPLASH (Structure of Populations, Levels of Abundance, and Status of Humpbacks)

The primary objectives of the SPLASH program are to improve the description of the stock structure of humpback whales in the North Pacific, to understand the abundance and trends of these stocks, and to assess the human impact on them. The program is a cooperative effort of researchers from the United States, Canada, Mexico, Japan, Russia, Philippines, and Central America. Data collection is primarily obtained through the field techniques of photo-identification of whale flukes and biopsy tissue sampling in the humpback whales' breeding and feeding grounds.

Results

SPLASH had better results than anticipated in many regions. The sanctuary, in partnership with State of Hawai'i Department of Land and Natural Resources, coordinated seven teams in Hawai'i, while conducting its own fieldwork on Penguin Bank and assisting with Hawai'i Island, Maui and Kaua'i.

SPLASH completed its final field season in 2006. Between 2004 and 2006, researchers in Hawai'i encountered 3,624 groups of whales, which resulted in the identification of 8,037 individuals. Researchers collected 15,252 images for use in photo-ID and human impact analysis, 5,689 fluke IDs, and 2032 biopsies over the project's duration.



This map showing North Pacific humpback whale migration routes was part of a *National Geographic Magazine* article on Hawaiian humpbacks whales.

SPLASH was cited by the Marine Mammal Commission in its 2004 Annual Report to Congress as exemplifying "the kind of progressive, creative research strategies that are needed for the Pacific Islands Region."

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EDUCATION AND OUTREACH

The sanctuary's mission is to enhance public awareness, understanding, and appreciation of the marine environment. The sanctuary has focused its education program on making its constituents aware of humpback whales and the ocean they live in with the understanding that ocean literate citizens will not only help protect endangered humpback whales but all natural resources. To address the issue of ocean literacy, the sanctuary implements a variety of activities that focus on three major areas: enhancing learning opportunities, increasing ocean awareness, and promoting ocean stewardship.

These programs, diverse in scope, content, and geographical coverage, have increased public awareness and provided other substantial benefits to local communities state-wide. The establishment of the sanctuary headquarters on Maui and satellite offices on the neighbor islands provides focal points for the public to learn about the sanctuary. These offices provide information and interpretive materials ranging from educational curriculum to exhibits on humpback whales, Hawai'i's marine ecosystem, Native Hawaiian traditional and cultural activities, recreational activities, and sanctuary regulations.

The sanctuary headquarters office is located in Kihei, Maui, where the surrounding island waters contain the highest density of humpback whales. Inside the Education Center, exhibits and artifacts highlight the significance of humpback whales from the perspectives of both science and culture.



The new Sanctuary Learning Center in Maui includes office space and a public lecture room that can accommodate 100 people.



Enhancing Student Learning Opportunities

Enhancing student learning opportunities about the ocean includes formal education for students, developing curriculum, enhancing programming in schools, and empowering teachers through workshops with the tools to expand ocean literacy.

Marine Education Curriculum—Building on the success of sanctuary education and outreach efforts, the sanctuary started a major initiative to extend NOAA's education efforts into Hawai'i's schools and use the oceans as a classroom to teach science to children. The scope of this project is to develop and implement marine education curriculum into the State of Hawai'i Department of Education (DOE) system.

Student Programs—During the past five years approximately 15,000 students have participated in sanctuary programs for students, which include classroom instruction, after-school activities, and visitations to its education center in Maui. Classrooms can customize their visits to the Maui Education Center by requesting learning stations that cover a wide range of topics including the National Marine Sanctuary System, humpback whales, turtles, seaweed (limu), Hawaiian fishponds, the intertidal zone, Hawaiian culture, and native plants. The sanctuary also provides school visits by sanctuary education volunteers and staff.

In-the-Field Experiences—In addition to its normal role as a vessel dedicated to research in Hawai'i, the NOAA ship Hi'ialakai has taken on a new task by providing a platform for students to learn about our islands from an ocean viewpoint. For the past three years, the ship has scheduled week-long cruises dedicated to education in the main Hawaiian Islands. On each island visited, forty high school students and teachers spend a day at sea participating in marine biology and oceanographic activities. The focus of these cruises is to introduce students to marine related careers, from marine biology and oceanography to NOAA shipboard opportunities. Future goals of this program include live broadcasts back to the classrooms from the ship, teacher workshops on the ship, and shore visits to the ship for younger students.

Educator Workshops—Sanctuary staff conduct educator workshops to provide educators with the resources and training to support ocean literacy in the classroom and in the community. In 2004, the sanctuary piloted a two-day "Dive into Education" marine science education workshop at the Bishop Museum and on Coconut Island. Eighty Hawai'i teachers from around the state participated in the workshop. In partnership with Coastal Zone Management, teachers were flown in from neighboring islands and American Samoa. The workshop was conducted by 20 national marine sanctuary educators from across the country and is now held annually throughout the National Marine Sanctuary Program.

By increasing ocean literacy in Hawai'i, the hope is to increase awareness, stewardship, and understanding of the importance of the ocean to our islands.

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Education and outreach tailored to develop an ocean literate public must be multi-faceted. Classrooms, media, public events and materials such as brochures, posters and well placed signage provide a variety of opportunities to instill a sense of stewardship for our island environment in both the local community and visitors.

Increasing Ocean Awareness

Increasing ocean awareness involves providing information on the unique marine environment of Hawai'i to the general public in an informal educational format that includes lectures, community events, and media.

Lectures—The sanctuary continues to host a monthly lecture series at the Maui Education Center. In addition, Humpback Whale Awareness Month, which is now instituted on the islands of O'ahu, Maui, Kaua'i, and Hawai'i, is a month-long calendar of special events including lectures, video presentations and lunchtime whale watches. News articles, website announcements, and radio and television segments have promoted the effort, and informational materials are provided to libraries, bookstores, and cafes throughout the state.

Community Events—The sanctuary has sponsored and participated in over 150 community events throughout the state during the last five years, reaching over 100,000 people with important messages about NOAA and the sanctuary. These community events include Sunset on the Beach and the Kaua'i Family Ocean Fair.

Educational Products—The sanctuary has been a leader in developing public education and outreach products about the marine environment in Hawai'i. These include installation of interpretive signs around the state in 2006. The sanctuary also produced an educational insert entitled "Protecting Hawaii's Ocean Treasures," which was printed and distributed to over 150,000 residents statewide by the Honolulu Advertiser on Wednesday, November 10, 2004. Children's publications (including the "Sea Turtle" and the "Kohola and Kolea" coloring books) are available on the Web. In an effort to support both cultural diversity and our Hawaiian heritage, educational materials include Japanese, Hawaiian and Samoan translations.



Interpretive signage will be installed around the state to educate Hawai'i residents and visitors about protected marine species.

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Promoting Ocean Stewardship

Promoting ocean stewardship involves providing the community with the knowledge of the ocean's importance to their lives and the skills for active participation in the protection of marine resources.

Sanctuary Ocean Count—Each year, the sanctuary staff relies upon hundreds of volunteers to tally sightings of humpbacks and document patterns of whale behavior from designated shore stations throughout the state. Over the past five years approximately 1,500 volunteers have participated in this event at over sixty-five shoreline locations.

In 2007, over 1,900 volunteers contributed at least 9,950 hours. This popular outreach effort continues to grow each year and has become a favorite project of many Hawai'i residents and tourists. Beginning in 2003, Ocean Count expanded to provide opportunities for local schools to participate in this annual census of humpback whales.



Volunteers and staff surveying for whales as part of Ocean Count.

Volunteer Program—Overall, there are close to 2,000 sanctuary volunteers statewide who contribute thousands of volunteer hours to sanctuary programs, and the number of volunteers is increasing every year. Sanctuary volunteers contributed 21,300 hours last year alone, equal to ten full-time staff. Volunteers not only involve the community in the sanctuary programs, they are a valuable resource for accomplishing a variety of tasks. Volunteers help staff the Education Center, count whales during Ocean Count, paint buildings, staff information tables at outreach events, and support staff and programs in numerous other ways.

Ocean Awareness Training—Sessions offer volunteers and marine tour operators the essential interpretive skills and content necessary to be prepared to educate Hawai'i visitors about marine resource in Hawai'i. Of the 170 people that took the Ocean Awareness Training, 96 received the ocean awareness certification card.

"Our volunteers bring with them a lifetime of experiences, information and energy. They become the staff, our outreach program and the face and voice of the sanctuary program."
—Allen Tom, NMSP
Pacific Islands Region
Superintendent

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CONCLUSION

This report represents the program's initial step for Sanctuary staff, working with the State of Hawaii and the Sanctuary Advisory Council, to begin to evaluate the existing sanctuary management plan and site programs to determine if the sanctuary is effectively protecting the humpback whale and its habitat and adequately responding to emerging issues. The sanctuary is summarizing these findings to make them available to the public and the State of Hawai'i for review.

The sanctuary program is multi-faceted and addresses many emerging issues through existing research, conservation and education programs; however, the sanctuary program's capacity to continue to address new issues is limited by constraints on resources, time, and personnel.



A humpback whale calf stays by its mother's side for about a year before it matures enough to survive on its own.

Photo by Doug Perrine/HWRF/Seapics.com/NOAA Fisheries Permit #882

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